

US EPA ARCHIVE DOCUMENT

*Nitrogen Newsletter is a summary of recent publications, news and reports related to the cycling, effects and management of nitrogen. Prepared by Mary O'Brien, contractor with ASRC Federal Primus, and Jana Compton. Contact Jana Compton with any questions (Compton.jana@epa.gov)*

*Please note: Most of these links are available to EPA staff through library access – not all links will be available to folks outside EPA, depending on your access to specific journals and websites.*

## **Table of Contents**

Special Issues .....	1
Articles .....	1
News .....	10
Reports .....	11
Web Pages .....	12

## **Special Issues**

**Greenhouse gas emissions from soil under changing environmental conditions.** 2013 Oct. European Journal of Soil Science 64(5): 547-733. Available from:  
<http://onlinelibrary.wiley.com/doi/10.1111/ejss.2013.64.issue-5/issuetoc>

## **Articles**

Aguilera R, Marce R, Sabater S. 2013. **Modeling nutrient retention at the watershed scale: Does small stream research apply to the whole river network?** J Geophys Res-Biogeo 118(2): 728-740. Available from: <http://dx.doi.org/10.1002/jgrg.20062>

Bachmann RW, Hoyer MV, Canfield DE. 2013. **The extent that natural lakes in the United States of America have been changed by cultural eutrophication.** Limnol Oceanogr 58(3): 945-950. Available from: <http://dx.doi.org/10.4319/lo.2013.58.3.0945>

Bernhardt ES. 2013. **Cleaner lakes are dirtier lakes.** Science 342(6155): 205-206. Available from: <http://dx.doi.org/10.1126/science.1245279>

Beusen AHW, Slomp CP, Bouwman AF. 2013. **Global land-ocean linkage: direct inputs of nitrogen to coastal waters via submarine groundwater discharge.** Environ Res Lett 8(3): 034035. Available from: <http://dx.doi.org/10.1088/1748-9326/8/3/034035>

Bozzolo FH, Lipson DA. 2013. **Differential responses of native and exotic coastal sage scrub plant species to N additions and the soil microbial community.** Plant Soil 371(1-2): 37-51. Available from: <http://dx.doi.org/10.1007/s11104-013-1668-2>

BryantMason A, Xu YJ, Altabet M. 2013. **Isotopic signature of nitrate in river waters of the lower Mississippi and its distributary, the Atchafalaya.** Hydrol Process 27(19): 2840-2850. Available from: <http://dx.doi.org/10.1002/hyp.9420>

Bukaveckas PA, Isenberg WN. 2013. **Loading, transformation, and retention of nitrogen and phosphorus in the tidal freshwater James River (Virginia).** Estuar Coast 36(6): 1219-1236. Available from: <http://dx.doi.org/10.1007/s12237-013-9644-x>

Charette MA, Henderson PB, Breier CF, Liu Q. 2013. **Submarine groundwater discharge in a river-dominated Florida estuary.** Mar Chem 156(SI): 3-17. Available from: <http://dx.doi.org/10.1016/j.marchem.2013.04.001>

Clair TA, Dennis IF, Belanger S. 2013. **Riverine nitrogen and carbon exports from the Canadian landmass to estuaries.** Biogeochemistry 115(1-3): 195-211. Available from: <http://dx.doi.org/10.1007/s10533-013-9828-2>

Concilio AL, Loik ME. 2013. **Elevated nitrogen effects on Bromus tectorum dominance and native plant diversity in an arid montane ecosystem.** Appl Veg Sci 16(4): 598-609. Available from: <http://dx.doi.org/10.1111/avsc.12029>

Connolly NM, Pearson RG. 2013. **Nutrient enrichment of a heterotrophic stream alters leaf litter nutritional quality and shredder physiological condition via the microbial pathway.** Hydrobiologia 718(1): 85-92. Available from: <http://dx.doi.org/10.1007/s10750-013-1605-7>

Creed IF, Miller J, Aldred D, Adams JK, Spitale S, Bourbonniere RA. 2013. **Hydrologic profiling for greenhouse gas effluxes from natural grasslands in the prairie pothole region of Canada.** J Geophys Res-Bioge 118(2): 680-697. Available from: <http://dx.doi.org/10.1002/jgrg.20050>

Curado G, Rubio-Casal AE, Figueroa E, Grewell BJ, Castillo JM. 2013. **Native plant restoration combats environmental change: development of carbon and nitrogen sequestration capacity using small cordgrass in European salt marshes.** Environ Monit Assess 185(10): 8439-8449. Available from: <http://dx.doi.org/10.1007/s10661-013-3185-4>

Danielescu S, MacQuarrie KTB. 2013. **Nitrogen and oxygen isotopes in nitrate in the groundwater and surface water discharge from two rural catchments: implications for nitrogen loading to coastal waters.** Biogeochemistry 115(1-3): 111-127. Available from: <http://dx.doi.org/10.1007/s10533-012-9823-z>

Ellis RA, Jacob DJ, Sulprizio MP, Zhang L, Holmes CD, Schichtel BA, Blett T, Porter E, Pardo LH, Lynch JA. 2013. **Present and future nitrogen deposition to national parks in the**

**United States: critical load exceedances.** Atmos Chem Phys 13(17): 9083-9095. Available from: <http://dx.doi.org/10.5194/acp-13-9083-2013>

Entwistle EM, Zak DR, Edwards IP. 2013. **Long-term experimental nitrogen deposition alters the composition of the active fungal community in the forest floor.** Soil Sci Soc Am J 77(5): 1648-1658. Available from: <http://dx.doi.org/10.2136/sssaj2013.05.0179>

Finlay JC, Small GE, Sterner RW. 2013. **Human influences on nitrogen removal in lakes.** Science 342(6155): 247-250. Available from: <http://dx.doi.org/10.1126/science.1242575>

Fiore CL, Baker DM, Lesser MP. 2013. **Nitrogen biogeochemistry in the Caribbean sponge, Xestospongia muta: a source or sink of dissolved inorganic nitrogen?** PLoS One 8(8): e72961. Available from: <http://dx.doi.org/10.1371/journal.pone.0072961>

Flechard CR, Massad RS, Loubet B, Personne E, Simpson D, Bash JO, Cooter EJ, Nemitz E, Sutton MA. 2013. **Advances in understanding, models and parameterizations of biosphere-atmosphere ammonia exchange.** Biogeosciences 10(7): 5183-5225. Available from: <http://dx.doi.org/10.5194/bg-10-5183-2013>

Gabriel JL, Garrido A, Quemada M. 2013. **Cover crops effect on farm benefits and nitrate leaching: Linking economic and environmental analysis.** Agr Syst 121: 23-32. Available from: <http://dx.doi.org/10.1016/j.agrsy.2013.06.004>

Gan HJ, Zak DR, Hunter MD. 2013. **Chronic nitrogen deposition alters the structure and function of detrital food webs in a northern hardwood ecosystem.** Ecol Appl 23(6): 1311-1321. Available from: <http://dx.doi.org/10.1890/12-1895.1>

Gleeson J, Santos IR, Maher DT, Golsby-Smith L. 2013. **Groundwater-surface water exchange in a mangrove tidal creek: Evidence from natural geochemical tracers and implications for nutrient budgets.** Mar Chem 156(SI): 27-37. Available from: <http://dx.doi.org/10.1016/j.marchem.2013.02.001>

Glibert PM, Kana TM, Brown K. 2013. **From limitation to excess: the consequences of substrate excess and stoichiometry for phytoplankton physiology, trophodynamics and biogeochemistry, and the implications for modeling.** J Marine Syst 125(SI): 14-28. Available from: <http://dx.doi.org/10.1016/j.jmarsys.2012.10.004>

Golay MEG, Thompson JR, Mabry CM, Kolka RK. 2013. **An investigation of water nutrient levels associated with forest vegetation in highly altered landscapes.** J Soil Water Conserv 68(5): 361-371. Available from: <http://dx.doi.org/10.2489/jswc.68.5.361>

Gu BJ, Chang J, Min Y, Ge Y, Zhu QA, Galloway JN, Peng CH. 2013. **The role of industrial nitrogen in the global nitrogen biogeochemical cycle.** Sci Rep-UK 3: 2579. Available from: <http://dx.doi.org/10.1038/srep02579>

- Guo XC, Potito AP, Luo L, Beilman DW. 2013. **Twentieth century human and climate impacts on a large mountain lake in southwest China.** Hydrobiologia 718(1): 189-206. Available from: <http://dx.doi.org/10.1007/s10750-013-1615-5>
- Hedwall PO, Nordin A, Strengbom J, Brunet J , Olsson B. 2013. **Does background nitrogen deposition affect the response of boreal vegetation to fertilization?** Oecologia 173(2): 615-624. Available from: <http://dx.doi.org/10.1007/s00442-013-2638-3>
- Huang JP, Zhou CH, Lee XH, Bao YX, Zhao XY, Fung J, Richter A, Liu X, Zheng YQ. 2013. **The effects of rapid urbanization on the levels in tropospheric nitrogen dioxide and ozone over East China.** Atmos Environ 77: 558-567. Available from: <http://dx.doi.org/10.1016/j.atmosenv.2013.05.030>
- Imer D, Merbold L, Eugster W , Buchmann N. 2013. **Temporal and spatial variations of soil CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O fluxes at three differently managed grasslands.** Biogeosciences 10(9): 5931-5945. Available from: <http://dx.doi.org/10.5194/bg-10-5931-2013>
- Jamieson MA, Quintero C, Blumenthal DM. 2013. **Interactive effects of simulated nitrogen deposition and altered precipitation patterns on plant allelochemical concentrations.** J Chem Ecol 39(9): 1204-1208. Available from: <http://dx.doi.org/10.1007/s10886-013-0340-x>
- Johnson JE, Berry JA. 2013. **The influence of leaf-atmosphere NH<sub>3</sub>(g) exchange on the isotopic composition of nitrogen in plants and the atmosphere.** Plant Cell Environ 36(10): 1783-1801. Available from: <http://dx.doi.org/10.1111/pce.12087>
- Juszczak R, Augustin J. 2013. **Exchange of the greenhouse gases methane and nitrous oxide between the atmosphere and a temperate peatland in central Europe.** Wetlands 33(5): 895-907. Available from: <http://dx.doi.org/10.1007/s13157-013-0448-3>
- Khakbazan M, Hamilton C, Elliott J, Yarotski J. 2013. **Economic analysis of agricultural nutrient management practices in the South Tobacco Creek Watershed in Manitoba, Canada.** J Soil Water Conserv 68(4): 257-269. Available from: <http://dx.doi.org/10.2489/jswc.68.4.257>
- Kim IN, Min DH. 2013. **Temporal variation of summertime denitrification rates in the Texas-Louisiana inner shelf region in the Gulf of Mexico: A modeling approach using the extended OMP analysis.** Cont Shelf Res 66: 49-57. Available from: <http://dx.doi.org/10.1016/j.csr.2013.07.005>
- Kim MK, Henry HAL. 2013. **Net ecosystem CO<sub>2</sub> exchange and plant biomass responses to warming and N addition in a grass-dominated system during two years of net CO<sub>2</sub> efflux.** Plant Soil 371(1-2): 409-421. Available from: <http://dx.doi.org/10.1007/s11104-013-1705-1>
- Klein BEK, McElroy JA, Klein R, Howard KP, Lee KE. 2013. **Nitrate-nitrogen levels in rural drinking water: Is there an association with age-related macular degeneration?** J Environ

Sci Heal A 48(14): 1757-1763. Available from:  
<http://dx.doi.org/10.1080/10934529.2013.823323>

Kohler S, Jungkunst HF, Erasmi S, Gerold G. 2013. **The effects of land use change on atmospheric nutrient deposition in central Sulawesi.** Erdkunde 67(2): 109-122. Available from: <http://dx.doi.org/10.3112/erdkunde.2013.02.01>

Kopacek J, Cosby BJ, Evans CD, Hruska J, Moldan F, Oulehle F, Santruckova H, Tahovska K, Wright RF. 2013. **Nitrogen, organic carbon and sulphur cycling in terrestrial ecosystems: linking nitrogen saturation to carbon limitation of soil microbial processes.** Biogeochemistry 115(1-3): 33-51. Available from: <http://dx.doi.org/10.1007/s10533-013-9892-7>

Kopacek J, Hejzlar J, Posch M. 2013. **Quantifying nitrogen leaching from diffuse agricultural and forest sources in a large heterogeneous catchment.** Biogeochemistry 115(1-3): 149-165. Available from: <http://dx.doi.org/10.1007/s10533-013-9825-5>

Krause K, Niklaus PA, Schleppi P. 2013. **Soil-atmosphere fluxes of the greenhouse gases CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O in a mountain spruce forest subjected to long-term N addition and to tree girdling.** Agr Forest Meteorol 181: 61-68. Available from:  
<http://dx.doi.org/10.1016/j.agrformet.2013.07.007>

Larose C, Dommergue A, Vogel TM. 2013. **Microbial nitrogen cycling in Arctic snowpacks.** Environ Res Lett 8(3): 035004. Available from: <http://dx.doi.org/10.1088/1748-9326/8/3/035004>

Lehman PW, Marr K, Boyer GL, Acuna S, Teh SJ. 2013. **Long-term trends and causal factors associated with Microcystis abundance and toxicity in San Francisco Estuary and implications for climate change impacts.** Hydrobiologia 718(1): 141-158. Available from: <http://dx.doi.org/10.1007/s10750-013-1612-8>

Levy I. 2013. **A national day with near zero emissions and its effect on primary and secondary pollutants.** Atmos Environ 77: 202-212. Available from:  
<http://dx.doi.org/10.1016/j.atmosenv.2013.05.005>

Link H, Chaillou G, Forest A, Piepenburg D, Archambault P. 2013. **Multivariate benthic ecosystem functioning in the Arctic - benthic fluxes explained by environmental parameters in the southeastern Beaufort Sea.** Biogeosciences 10(9): 5911-5929. Available from: <http://dx.doi.org/10.5194/bg-10-5911-2013>

Mast MA. 2013. **Evaluation of stream chemistry trends in US Geological Survey reference watersheds, 1970-2010.** Environ Monit Assess 185(11): 9343-9359. Available from:  
<http://dx.doi.org/10.1007/s10661-013-3256-6>

McCarthy MJ, Gardner WS, Lehmann MF, Bird DF. 2013. **Implications of water column ammonium uptake and regeneration for the nitrogen budget in temperate, eutrophic Missisquoi Bay, Lake Champlain (Canada/USA).** Hydrobiologia 718(1): 173-188. Available from: <http://dx.doi.org/10.1007/s10750-013-1614-6>

- Meyer A, Focks A, Radl V, Keil D, Welzl G, Schonung I, Boch S, Marhan S, Kandeler E, Schloter M. 2013. **Different land use intensities in grassland ecosystems drive ecology of microbial communities involved in nitrogen turnover in soil.** PLoS One 8(9): e73536. Available from: <http://dx.doi.org/10.1371/journal.pone.0073536>
- Michelutti N, McCleary KM, Antoniades D, Sutherland P, Blais JM, Douglas MSV, Smol JP. 2013. **Using paleolimnology to track the impacts of early Arctic peoples on freshwater ecosystems from southern Baffin Island, Nunavut.** Quaternary Sci Rev 76: 82-95. Available from: <http://dx.doi.org/10.1016/j.quascirev.2013.06.027>
- Mitchell DC, Castellano MJ, Sawyer JE, Pantoja J. 2013. **Cover crop effects on nitrous oxide emissions: role of mineralizable carbon.** Soil Sci Soc Am J 77(5): 1765-1773. Available from: <http://dx.doi.org/10.2136/sssaj2013.02.0074>
- Morse RE, Mulholland MR, Hunley WS, Fentress S, Wiggins M, Blanco-Garcia JL. 2013. **Controls on the initiation and development of blooms of the dinoflagellate *Cochlodinium polykrikoides* Margalef in lower Chesapeake Bay and its tributaries.** Harmful Algae 28: 71-82. Available from: <http://dx.doi.org/10.1016/j.hal.2013.05.013>
- Muri G. 2013. **Atmospheric deposition chemistry in a subalpine area of the Julian Alps, North-West Slovenia.** J Limnol 72(2): 291-300. Available from: <http://dx.doi.org/10.4081/jlimnol.2013.e23>
- Ohte N. 2013. **Tracing sources and pathways of dissolved nitrate in forest and river ecosystems using high-resolution isotopic techniques: a review.** Ecol Res 28(5): 749-757. Available from: <http://dx.doi.org/10.1007/s11284-012-0939-3>
- Oswald R, Behrendt T, Ermel M, Wu D, Su H, Cheng Y, Breuninger C, Moravek A, Mougin E, Delon C, et al. 2013. **HONO emissions from soil bacteria as a major source of atmospheric reactive nitrogen.** Science 341(6151): 1233-1235. Available from: <http://dx.doi.org/10.1126/science.1242266>
- Paerl HW, Otten TG. 2013. **Blooms bite the hand that feeds them.** Science 342(6157): 433-434. Available from: <http://dx.doi.org/10.1126/science.1245276>
- Palta MM, Ehrenfeld JG, Groffman PM. 2013. **Denitrification and potential nitrous oxide and carbon dioxide production in brownfield wetland soils.** J Environ Qual 42(5): 1507-1517. Available from: <http://dx.doi.org/10.2134/jeq2012.0392>
- Perez J, Basaguren A, Descals E, Larranaga A, Pozo J. 2013. **Leaf-litter processing in headwater streams of northern Iberian Peninsula: moderate levels of eutrophication do not explain breakdown rates.** Hydrobiologia 718(1): 41-57. Available from: <http://dx.doi.org/10.1007/s10750-013-1610-x>

Perlman J, Hijmans RJ, Horwath WR. 2013. **Modelling agricultural nitrous oxide emissions for large regions.** Environ Modell Softw 48: 183-192. Available from: <http://dx.doi.org/10.1016/j.envsoft.2013.07.002>

Pittelkow CM, Adviento-Borbe MA, Hill JE, Six J, van Kessel C, Linquist BA. 2013. **Yield-scaled global warming potential of annual nitrous oxide and methane emissions from continuously flooded rice in response to nitrogen input.** Agr Ecosyst Environ 177: 10-20. Available from: <http://dx.doi.org/10.1016/j.agee.2013.05.011>

Qin ZX, Shober AL, Beeson RC, Wiese C. 2013. **Nutrient leaching from mixed-species Florida residential landscapes.** J Environ Qual 42(5): 1534-1544. Available from: <http://dx.doi.org/10.2134/jeq2013.04.0126>

Rankinen K, Granlund K, Futter MN, Butterfield D, Wade AJ, Skeffington R, Arvola L, Veijalainen N, Huttunen I, Lepisto A. 2013. **Controls on inorganic nitrogen leaching from Finnish catchments assessed using a sensitivity and uncertainty analysis of the INCA-N model.** Boreal Environ Res 18(5): 373-386. Available from: <http://www.borenv.net/BER/pdfs/ber18/ber18-373.pdf>

Rineau F, Shah F, Smits MM, Persson P, Johansson T, Carleer R, Troein C, Tunlid A. 2013. **Carbon availability triggers the decomposition of plant litter and assimilation of nitrogen by an ectomycorrhizal fungus.** ISME J 7(10): 2010-2022. Available from: <http://dx.doi.org/10.1038/ismej.2013.91>

Robertson DM, Saad DA. 2013. **SPARROW models used to understand nutrient sources in the Mississippi/Atchafalaya River basin.** J Environ Qual 42(5): 1422-1440. Available from: <http://dx.doi.org/10.2134/jeq2013.02.0066>

Root HT, Geiser LH, Fenn ME, Jovan S, Hutten MA, Ahuja S, Dillman K, Schirokauer D, Berryman S, McMurray JA. 2013. **A simple tool for estimating throughfall nitrogen deposition in forests of western North America using lichens.** Forest Ecol Manag 305: 1-8. Available from: <http://dx.doi.org/10.1016/j.foreco.2013.06.028>

Rowangould GM. 2013. **A census of the US near-roadway population: Public health and environmental justice considerations.** Transportation Research Part D: Transport and Environment 25: 59-67. Available from: <http://dx.doi.org/10.1016/j.trd.2013.08.003>

Russoniello CJ, Fernandez C, Bratton JF, Banaszak JF, Krantz DE, Andres AS, Konikow LF, Michael HA. 2013. **Geologic effects on groundwater salinity and discharge into an estuary.** J Hydrol 498: 1-12. Available from: <http://dx.doi.org/10.1016/j.jhydrol.2013.05.049>

Schilling KE, Jones CS, Seeman A. 2013. **How paired is paired? comparing nitrate concentrations in three Iowa drainage districts.** J Environ Qual 42(5): 1412-1421. Available from: <http://dx.doi.org/10.2134/jeq2013.03.0085>

- Sebilo M, Mayer B, Nicolardot B, Pinay G, Mariotti A. 2013. **Long-term fate of nitrate fertilizer in agricultural soils.** PNAS [Published online before print October 21, 2013]. Available from: <http://dx.doi.org/10.1073/pnas.1305372110>
- Sickles JE, Shadwick DS. 2013. **"Transference ratios" to predict total oxidized sulfur and nitrogen deposition - Part I, monitoring results.** Atmos Environ 77: 1060-1069. Available from: <http://dx.doi.org/10.1016/j.atmosenv.2012.09.072>
- Sickles JE, Shadwick DS, Kilaru JV, Appel KW. 2013. **"Transference ratios" to predict total oxidized sulfur and nitrogen deposition - Part II, modeling results.** Atmos Environ 77: 1070-1082. Available from: <http://dx.doi.org/10.1016/j.atmosenv.2013.05.015>
- Slemmons KEH, Saros JE, Simon K. 2013. **The influence of glacial meltwater on alpine aquatic ecosystems: a review.** Environ Sci-Proc Imp 15(10): 1794-1806. Available from: <http://dx.doi.org/10.1039/c3em00243h>
- Somes CJ, Oschlies A, Schmittner A. 2013. **Isotopic constraints on the pre-industrial oceanic nitrogen budget.** Biogeosciences 10(9): 5889-5910. Available from: <http://dx.doi.org/10.5194/bg-10-5889-2013>
- Song CC, Wang LL, Tian HQ, Liu DY, Lu CQ, Xu XF, Zhang LH, Yang GS, Wan ZM. 2013. **Effect of continued nitrogen enrichment on greenhouse gas emissions from a wetland ecosystem in the Sanjiang Plain, Northeast China: a 5 year nitrogen addition experiment.** J Geophys Res-Biogeo 118(2): 741-751. Available from: <http://dx.doi.org/10.1002/jgrg.20063>
- Stavrakou T, Muller JF, Boersma KF, van der A RJ, Kurokawa J, Ohara T, Zhang Q. 2013. **Key chemical NOx sink uncertainties and how they influence top-down emissions of nitrogen oxides.** Atmos Chem Phys 13(17): 9057-9082. Available from: <http://dx.doi.org/10.5194/acp-13-9057-2013>
- Stella P, Kortner M, Ammann C, Foken T, Meixner FX, Trebs I. 2013. **Measurements of nitrogen oxides and ozone fluxes by eddy covariance at a meadow: evidence for an internal leaf resistance to NO<sub>2</sub>.** Biogeosciences 10(9): 5997-6017. Available from: <http://dx.doi.org/10.5194/bg-10-5997-2013>
- Stocker BD, Roth R, Joos F, Spahni R, Steinacher M, Zaehle S, Bouwman L, Xu-Ri, Prentice IC. 2013. **Multiple greenhouse-gas feedbacks from the land biosphere under future climate change scenarios.** Nat Clim Change 3(7): 666-672. Available from: <http://dx.doi.org/10.1038/NCLIMATE1864>
- Testa JM, Brady DC, Di Toro DM, Boynton WR, Cornwell JC, Kemp WM. 2013. **Sediment flux modeling: Simulating nitrogen, phosphorus, and silica cycles.** Estuar Coast Shelf S 131: 245-263. Available from: <http://dx.doi.org/10.1016/j.ecss.2013.06.014>
- Thibodeau B, Helie JF, Lehmann MF. 2013. **Variations of the nitrate isotopic composition in the St. Lawrence River caused by seasonal changes in atmospheric nitrogen inputs.**

Biogeochemistry 115(1-3): 287-298. Available from: <http://dx.doi.org/10.1007/s10533-013-9834-4>

Troost TA, Blaas M, Los FJ. 2013. **The role of atmospheric deposition in the eutrophication of the North Sea: A model analysis.** J Marine Syst 125(SI): 101-112. Available from: <http://dx.doi.org/10.1016/j.jmarsys.2012.10.005>

Trost B, Prochnow A, Drastig K, Meyer-Aurich A, Ellmer F, Baumecker M. 2013. **Irrigation, soil organic carbon and N<sub>2</sub>O emissions. a review.** Agron Sustain Dev 33(4): 733-749. Available from: <http://dx.doi.org/10.1007/s13593-013-0134-0>

Tysmans DJJ, Lohr AJ, Kroese C, Ivens WPMF, van Wijnen J. 2013. **Spatial and temporal variability of nutrient retention in river basins: A global inventory.** Ecol Indic 34: 607-615. Available from: <http://dx.doi.org/10.1016/j.ecolind.2013.06.022>

Vadrucci MR, Stanca E, Mazziotti C, Umani SF, Georgia A, Moncheva S, Romano A, Bucci R, Ungaro N, Basset A. 2013. **Ability of phytoplankton trait sensitivity to highlight anthropogenic pressures in Mediterranean lagoons: a size spectra sensitivity index (ISS-phyto).** Ecol Indic 34: 113-125. Available from: <http://dx.doi.org/10.1016/j.ecolind.2013.04.013>

Valiela I, Barth-Jensen C, Stone T, Crusius J, Fox S, Bartholomew M. 2013. **Deforestation of watersheds of Panama: nutrient retention and export to streams.** Biogeochemistry 115(1-3): 299-315. Available from: <http://dx.doi.org/10.1007/s10533-013-9836-2>

van de Weg MJ, Shaver GR, Salmon VG. 2013. **Contrasting effects of long term versus short-term nitrogen addition on photosynthesis and respiration in the Arctic.** Plant Ecol 214(10): 1273-1286. Available from: <http://dx.doi.org/10.1007/s11258-013-0250-6>

van Goethem TMWJ, Preiss P, Azevedo LB, Roos J, Friedrich R, Huijbregts MAJ, van Zelm R. 2013. **European characterization factors for damage to natural vegetation by ozone in life cycle impact assessment.** Atmos Environ 77: 318-324. Available from: <http://dx.doi.org/10.1016/j.atmosenv.2013.05.009>

Verburg P, Horrox J, Chaney E, Rutherford JC, Quinn JM, Wilcock RJ, Howard-Williams CW. 2013. **Nutrient ratios, differential retention, and the effect on nutrient limitation in a deep oligotrophic lake.** Hydrobiologia 718(1): 119-130. Available from: <http://dx.doi.org/10.1007/s10750-013-1609-3>

Wang LY, Ye M, Rios JF, Fernandes R, Lee PZ, Hicks RW. 2013. **Estimation of nitrate load from septic systems to surface water bodies using an ArcGIS-based software.** Environ Earth Sci 70(4): 1911-1926. Available from: <http://dx.doi.org/10.1007/s12665-013-2283-5>

Warren DR, Judd KE, Bade DL, Likens GE, Kraft CE. 2013. **Effects of wood removal on stream habitat and nitrate uptake in two northeastern US headwater streams.** Hydrobiologia 717(1): 119-131. Available from: <http://dx.doi.org/10.1007/s10750-013-1578-6>

Winiwarter W, Erisman JW, Galloway JN, Klimont Z, Sutton MA. 2013. **Estimating environmentally relevant fixed nitrogen demand in the 21st century.** Climatic Change 120(4): 889-901. Available from: <http://dx.doi.org/10.1007/s10584-013-0834-0>

Xue DM, De Baets B, Van Cleemput O, Hennessy C, Berglund M, Boeckx P. 2013. **Classification of nitrate polluting activities through clustering of isotope mixing model outputs.** J Environ Qual 42(5): 1486-1497. Available from: <http://dx.doi.org/10.2134/jeq2012.0456>

Yang JY, Drury CF, De Jong R, Huffman EC, Yang XM, Reid K. 2013. **Sensitivity analysis for nitrogen inputs, nitrogen outputs, and changes in biofuel crop acreages for predicting residual soil nitrogen and nitrate leaching in Canadian agricultural soils.** Ecol Model 267: 26-38. Available from: <http://dx.doi.org/10.1016/j.ecolmodel.2013.07.016>

Zhao HF, Yao XJ, Wang Q, Chen YS, Xu XN. 2013. **Nitrogen deposition and soil nitrogen dynamics in subtropical evergreen broad-leaved stands along an age-sequence.** J Soil Sci Plant Nut 13(2): 237-250. Available from: <http://www.scielo.cl/pdf/jsspn/v13n2/aop2113.pdf>

## News

Barboza T. **Nutrient pollution threatens national park ecosystems, study says.** Los Angeles Times 2013 Oct 14. Available from: <http://www.latimes.com/science/sciencenow/la-sci-sn-national-park-fertilize-nitrogen-air-pollution-20131014,0,6264129.story#axzz2jL5VIclO>

### For Bloomberg BNA subscribers (including EPA staff):

Saiyad AH. **Water pollution: EPA says states can tailor ammonia level criteria to reflect freshwater aquatic life.** Daily Environ Rep 2013 Oct 31. Available from: [http://esweb.bna.com/eslw/1245/split\\_display.adp?fedfid=37707071&vname=dennotallissues&wsn=497705500&searchid=21378089&doctypeid=2&type=date&mode=doc&split=0&scm=1245&pg=0](http://esweb.bna.com/eslw/1245/split_display.adp?fedfid=37707071&vname=dennotallissues&wsn=497705500&searchid=21378089&doctypeid=2&type=date&mode=doc&split=0&scm=1245&pg=0)

Standaert M. **Air pollution: China plans to monitor health impacts of air pollution, releases key emissions data.** Daily Environ Rep 2013 Oct 31. Available from: [http://esweb.bna.com/eslw/1245/split\\_display.adp?fedfid=37707063&vname=dennotallissues&wsn=497694500&searchid=21378089&doctypeid=2&type=date&mode=doc&split=0&scm=1245&pg=0](http://esweb.bna.com/eslw/1245/split_display.adp?fedfid=37707063&vname=dennotallissues&wsn=497694500&searchid=21378089&doctypeid=2&type=date&mode=doc&split=0&scm=1245&pg=0)

Gardner S. **Water pollution: EU reports slight decrease in nitrate in runoff reaching ground, surface water.** Daily Environ Rep 2013 Oct 21. Available from: [http://esweb.bna.com/eslw/1245/split\\_display.adp?fedfid=37367525&vname=dennotallissues&](http://esweb.bna.com/eslw/1245/split_display.adp?fedfid=37367525&vname=dennotallissues&)

[wsn=497986000&searchid=21378089&doctypeid=2&type=date&mode=doc&split=0&scm=1245&pg=1](http://esweb.bna.com/eslw/1245/split_display.adp?fedfid=37212006&vname=dennotallissues&wsn=497986000&searchid=21378089&doctypeid=2&type=date&mode=doc&split=0&scm=1245&pg=1)

Gardner S. **Air pollution: EU air quality review to focus on reducing pollutant emissions but not concentrations.** Daily Environ Rep 2013 Oct 16. Available from:  
[http://esweb.bna.com/eslw/1245/split\\_display.adp?fedfid=37211985&vname=dennotallissues&wsn=498092500&searchid=21378089&doctypeid=2&type=date&mode=doc&split=0&scm=1245&pg=1](http://esweb.bna.com/eslw/1245/split_display.adp?fedfid=37211985&vname=dennotallissues&wsn=498092500&searchid=21378089&doctypeid=2&type=date&mode=doc&split=0&scm=1245&pg=1)

Wolski, M. **Water pollution: Iowa environmental commission opts not to implement numeric nutrient criteria.** Daily Environ Rep 2013 Oct 16. Available from:  
[http://esweb.bna.com/eslw/1245/split\\_display.adp?fedfid=37120316&vname=dennotallissues&wsn=498945000&searchid=21378089&doctypeid=2&type=date&mode=doc&split=0&scm=1245&pg=1](http://esweb.bna.com/eslw/1245/split_display.adp?fedfid=37120316&vname=dennotallissues&wsn=498945000&searchid=21378089&doctypeid=2&type=date&mode=doc&split=0&scm=1245&pg=1)

Childers A, Baltz T. **Air pollution: WildEarth Guardians sues EPA over nitrogen dioxide plans in nine states.** Daily Environ Rep 2013 Oct 10. Available from:  
[http://esweb.bna.com/eslw/1245/split\\_display.adp?fedfid=37120316&vname=dennotallissues&wsn=498945000&searchid=21378089&doctypeid=2&type=date&mode=doc&split=0&scm=1245&pg=1](http://esweb.bna.com/eslw/1245/split_display.adp?fedfid=37120316&vname=dennotallissues&wsn=498945000&searchid=21378089&doctypeid=2&type=date&mode=doc&split=0&scm=1245&pg=1)

#### **For Greenwire subscribers (including EPA staff):**

Irfan U. **Health: climate change to make algal blooms more toxic -- report.** ClimateWire 2013 Oct 25. Available from: <http://www.eenews.net/climatewire/stories/1059989410/>

Pearson S. **Water pollution: study says fertilizers can stay in soil for decades.** E&E News PM 2013 Oct 21. Available from: <http://www.eenews.net/eenewspm/stories/1059989147/>

National parks: nutrient pollution threatens public lands -- study. Greenwire 2013 Oct 15. Available from: <http://www.eenews.net/greenwire/stories/1059988826/>

Streater S. **Air pollution: enviros push Colo. to tighten regs on oil and gas industry.** Greenwire 2013 Oct 8. Available from: <http://www.eenews.net/greenwire/stories/1059988529/>

Plautz J. **Air pollution: nearly one-fifth of U.S. lives near busy roadway, study finds.** Greenwire 2013 Oct 7. Available from: <http://www.eenews.net/greenwire/stories/1059988455/>

## **Reports**

U.S. Environmental Protection Agency Office of Water. 2013 April. **Flexibilities for states applying EPA's ammonia criteria recommendations.** EPA-820-F 13-001. Washington, D.C.: U.S. Environmental Protection Agency Office of Water. 11 pp. Available from:  
<http://water.epa.gov/scitech/swguidance/standards/criteria/aqlife/ammonia/upload/Flexibilities-for-States-Applying-EPA-s-Ammonia-Criteria-Recommendations.pdf>

European Commission. 2013 October 4. **Report from the Commission to the Council and the European Parliament on the implementation of Council Directive 91/676/EEC concerning the protection of waters against pollution caused by nitrates from agricultural sources.** COM(2013) 683 final. Brussels: European Commission. 11 pp. Available from: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2013:0683:FIN:EN:PDF>

European Environment Agency. 2013 October 15. **Air quality in Europe—2013 report.** EEA report—no 9/2013. Copenhagen: European Environment Agency. 107 p. Available from: <http://www.eea.europa.eu/publications/air-quality-in-europe-2013>

**WildEarth Guardians v. McCarthy.** [Case 1:13-cv-02748 Document 2 Filed 10/09/13 in the United States District Court for the District of Colorado.] Available from: [http://www2.bloomberg.com/public/desktop/document/WildEarth\\_Guardians\\_v\\_McCarthy\\_Docket\\_No\\_113cv02748\\_D\\_Colo\\_Oct\\_08](http://www2.bloomberg.com/public/desktop/document/WildEarth_Guardians_v_McCarthy_Docket_No_113cv02748_D_Colo_Oct_08)

WildEarth Guardians. 2013 October 7. **[Letter to Will Allison, Director, Colorado Air Pollution Control Division.]** Denver: WildEarth Guardians. 6 p. Available from: [http://www.wildearthguardians.org/site/DocServer/2013\\_10\\_7\\_ozone\\_letter\\_to\\_Allison.pdf?docID=10842](http://www.wildearthguardians.org/site/DocServer/2013_10_7_ozone_letter_to_Allison.pdf?docID=10842)

## Web Pages

**Aquatic Life Criteria - Ammonia: 2013 Final Ammonia Criteria** [Internet] Washington, D.C.: U.S. Environmental Protection Agency. [Last updated on Thursday, October 31, 2013]. Available from: <http://water.epa.gov/scitech/swguidance/standards/criteria/aqlife/ammonia/>